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Siemens Corporation
Attn: Elsa Keller, Legal Administration
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

NGUYEN, LE V

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/608,284
Filing Date: June 27, 2003
Appellant(s): NADADUR ET AL.

Siemens Corporation
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/22/08 appealing from the Office action mailed 6/20/07.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,708,055	Geiser et al.	03-2004
2004/0077952	Rafter et al.	04-2004
2003/0016852	Kaufman et al.	01-2003
6,741,672	Gaddipati et al.	05-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-5, 9, 11-20, 22-30 and 32-36 are rejected under 35 U.S.C. 102(e) as being unpatentable by Geiser et al. ("Geiser") in view of Rafter et al. ("Rafter"), and further in view of Kaufman et al. ("Kaufman").

As per claim 1, although Geiser teaches a method for displaying a medical image, the method comprising displaying a moving medical image of a beating heart in a first display area wherein the medical image of the beating heart comprises a sequence of image frames (col. 16, lines 42-43), Geiser does not explicitly disclose displaying a plurality of image frames of the sequence of image frames of the medical image in a second display area wherein the plurality of image frames are acquired at end-diastolic (ED) and end-systolic (ES) portions of a cycle of the beating heart. Rafter teaches displaying a plurality of image frames of the sequence of image frames of the

medical image in a second display area wherein the plurality of image frames are acquired at end-diastolic (ED) and end-systolic (Abstract; fig. 7A; paragraphs [0089] and [0093]; via selection of elements 761 and 763). It would have been obvious to an artisan at the time of the invention to incorporate the method of Rafter with the method of Geiser given that it is often desirable and useful to observe and compare multiple images of the heart at the same portion of the cardiac cycle for patient evaluation/treatment purposes.

However, Rafter and Geiser still do not explicitly disclose first, second and third display areas being simultaneously displayed. Kaufman teaches displaying a medical image in a first display area (figs. 2-6, *element 50*), displaying a plurality of image frames of the medical image in a second display area (figs. 2-6; *plurality of image frames of the medical image 50 with shared scrollbar 58 displayed below 54*) and displaying a data plot in a third display area wherein the first, second, and third display areas are simultaneously displayed (figs. 2-6; *data plot 70*). It would have been obvious to an artisan at the time of the invention to incorporate the method of Kaufman with the method of Rafter and Geiser for ease of monitoring a patient's condition.

As per claim 2, the modified Geiser teaches a method for displaying a medical image, the method wherein a size of the image frames displayed in the second display area is smaller than a size of the medical image displayed in the first display area (Kaufman: figs. 2-6).

As per claim 3, the modified Geiser teaches a method for displaying a medical image comprising (a) receiving a user selection in one of the first, second, and third

display areas, and (b) altering a display of at least one of the first, second, and third display areas in response to the received user selection (Kaufman: figs. 2-6; section [0085]; *user can scroll through the image frames by selecting scrollbar 58 until marker 76 in field 70 is over the desire portion*).

As per claim 4, the modified Geiser teaches a method for displaying a medical image wherein (a) comprises receiving a selection of a point on the data plot in the third display area (Kaufman: figs. 2-6; section [0070]; *selection of a point on the data plot via highlighting*), and (b) comprises displaying an indicator at the point selected on the data plot in the third display area (Kaufman: figs. 2-6; section [0085]; *marker/indicator 76*), displaying an image frame in the first display area corresponding to the point selected on the data plot (Kaufman: section [0070]; *image frame 50 correspond to the point highlighted/selected on the ECG field/data plot*) and scrolling the plurality of image frames displayed in the second display area to the image frame corresponding to the point selected on the data plot (Kaufman: figs. 2-6; section [0085]; *scrolling through the image frames to the image frame that corresponds to the point selected on the data plot via selection of scrollbar 58 until marker 76 in field 70 is over the desire portion*).

As per claim 5, the modified Geiser teaches a method for displaying a medical image wherein (a) comprises receiving a selection of an image frame displayed in the second display area (section [0063]; *selection of an image frame such as image frame 56 via scrollbar 61*), and (b) comprise displaying an indicator at a point on the data plot in the third display area corresponding to the selected image frame (Kaufman: figs. 2-6; section [0085]; *a user selects an image frame such as image frame 56 by scrolling*

through the image frames using scrollbar 61 until highlight/indicator 76 is over the desire point on field/data plot 70 so that the point corresponds to the selected image) and displaying the selected image frame in the first display area (Kaufman: figs. 2-6; section [0070]; displaying highlighted/selected image frame in element 50).

As per claim 9, the modified Geiser teaches a method for displaying a medical image comprising displaying a menu in a fourth display area (Kaufman: section [0061]).

As per claim 11, the modified Geiser teaches a method for displaying a medical image wherein the medical image comprises a live image (Kaufman: section [0057]; *images are displayed to the user in real time*).

As per claim 12, the modified Geiser teaches a method for displaying a medical image wherein the medical image comprises a recalled image (Kaufman: section [0063]; *an image such as image frame 56 can be recalled via scrollbar 61*).

As per claim 13, the modified Geiser teaches a method for displaying a medical image wherein the medical image comprises an ultrasound image (Kaufman: section [0044]).

As per claim 14, the modified Geiser teaches a method for displaying a medical image wherein the data plot comprises a graph of at least one of the following: end-diastolic volume, end-systolic volume, ejection fraction, stroke volume, stroke index, cardiac output, and cardiac index (Kaufman: sections [0042] and [0069]; *ECG field 70 displays a patient's ECG signal that was taken during the imaging of the patient's heart wherein an ECG signal has a plurality of cardiac cycles including images obtained during systole and diastole*).

As per claim 15, the modified Geiser teaches a method for displaying a medical image wherein the first, second, and third display areas are displayed on a medical diagnostic image acquisition system (Kaufman: sections [0003], [0044] and [0087]; *e.g. ultrasound imaging system*).

As per claim 16, the modified Geiser teaches a method for displaying a medical image wherein the first, second, and third display areas are displayed on an image review system (Kaufman: section [0087]; *e.g. a computer other than the medical diagnostic image acquisition system that can recall images*).

Claims 17-20, in combination, are similar in scope to the combination of claims 2 and 5 and are therefore rejected under similar rationale.

Claims 22 and 32 individually are similar in scope to claim 11 and are therefore rejected under similar rationale.

Claims 23 and 33 individually are similar in scope to claim 12 and are therefore rejected under similar rationale.

Claims 24 and 34 individually are similar in scope to claim 13 and are therefore rejected under similar rationale.

Claims 25 and 35 individually are similar in scope to claim 15 and are therefore rejected under similar rationale.

Claims 26 and 36 individually are similar in scope to claim 16 and are therefore rejected under similar rationale.

Claims 27-30, in combination, are similar in scope to the combination of claims 2 and 5 and are therefore rejected under similar rationale.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geiser et al. ("Geiser") in view of Rafter et al. ("Rafter") and Kaufman et al. ("Kaufman") as applied to claim 3, and further in view of Gaddipati et al. ("Gaddipati").

As per claims 6-8, although the modified Geiser teaches a method for displaying a medical image wherein (a) comprises receiving a selection of the medical image in the first display area (Kaufman: sections [0070] and [0073]), the modified Geiser does not explicitly disclose pausing the display of the medical image or suspending a medical image acquisition operation. Gaddipati teaches pausing the display of the medical image or suspending a medical image acquisition operation (col. 8, lines 52-63). It would have been obvious to an artisan at the time of the invention to incorporate the method of Gaddipati with the method of the modified Geiser in order to enable an operator control over the session or procedure performed by the application.

(10) Response to Argument

Appellant argued that although Rafter teaches an end-systolic (ES) button on the operator interface for displaying images acquired at end of systole and an end-diastolic (ED) button for displaying images acquired at end of diastole, Rafter's end-systolic button and end-diastolic button merely allow viewing of image frames at the same portion of the cardiac cycle, i.e. either at end of systole or end of diastole.

The Office disagrees for the following reason(s):

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., view image frames at the same portion of the cardiac cycle) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, Rafter teaches that the operator interface can do both: display images acquired at ES and display images acquired at ED (Abstract; fig. 7A; paragraphs [0089] and [0093]; via selection of elements 761 and 763). Moreover, the claim language does not require that images acquired at ES and ED be simultaneously displayed.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Le Nguyen

/Le Nguyen/

Examiner, Art Unit 2174

Conferees:

/David A Wiley/

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Supervisory Patent Examiner, Art Unit 2174

/SY D. LUU/
Primary Patent Examiner
Art Unit 2174